

## REMARKS

Applicants respond herein to the Decision on Appeal, mailed November 18, 2005. Reconsideration is requested in view of the amendments above and the remarks below.

### **Background**

Applicants appealed the Examiner's final rejection of claims 1 through 5, 7 through 10, 12 through 17, 19 through 21, and 26 through 30, to the Board of Patent Appeals and Interferences (the "Board"). Appeal No. 2005-2075. On November 18, 2005, the Board issued a decision wherein the Examiner's rejections under 35 U.S.C. §§ 102 & 103 were procedurally reversed, and new rejections were set forth pursuant to 37 C.F.R. § 41.50(b).

The applicants/appellants are provided two months from the date of the Board's Decision, pursuant to 37 C.F.R. §41.50(b), to exercise one of two options: a) reopen prosecution by submitting an appropriate amendment of the claims and have the matter reconsidered by the examiner; or b) request a rehearing. Applicants have chosen to reopen prosecution, and timely submit this amendment in accordance with the Board's first option.

### **35 U.S.C. 112 rejections**

The Board rejected claims 1 through 5, 7 through 10, 12 through 17, 19 through 21, and 26 through 30, under 35 U.S.C. § 112, second paragraph, for failing

to particularly point out and distinctly claim the subject matter which the appellants regard as their invention.

The Board stated, "due to the inconsistencies between the preamble and the body of each of the independent claims on appeal, i.e., claims 1, 13 and 28, we are of the view that one of ordinary skill in the art would not be able to ascertain the boundaries of protection sought by the claims on appeal." Decision On Appeal, p.7. Specifically, the Board opined that while the preamble of each of the independent claims is directed to a chemical vapor deposition fluid delivery apparatus, *per se*, the body thereof refers to a chemical vapor deposition chamber. From the Board's perspective, it was not apparent whether a chemical vapor deposition fluid delivery apparatus has been claimed, or whether a combination of such delivery apparatus and a chemical vapor deposition chamber has been claimed. Decision On Appeal, pp. 7-8. Thus, the Board concluded, as a matter of law, that the claims on appeal did not satisfy the definiteness requirement of 35 U.S.C. § 112, second paragraph.

In response to the Board's rejections, applicants have reviewed the claims and concur that the claims are attempting to cite a combination of a chemical vapor deposition fluid delivery apparatus and chemical vapor deposition chamber. This combination is fully supported by the specification.

First, the problem that the invention intends to address involves processing and fluid delivery within a chemical vapor deposition chamber:

The introduction of deposition reactants and other dopants has posed technical problems in the art that are governed, in part, by the physical properties these materials undergo *within the chemical vapor deposition process*. Some resolutions to these problems have incorporated direct

injection of liquid solutions to introduce a deposition reactant *into a CVD deposition chamber*.

Specification, p.1, ll.12-17 (emphasis added); and

The present methods in the art used to inject a carrier fluid (gas) such as tetraethylorthosilicate (TEOS) along with precursors and dopants into the gas manifold leading to the *reactor chamber* is inefficient and does not fully vaporize the injected fluids, especially the TEOS.

Specification, p.2, ll.16-19 (emphasis added).

Second, the invention's objectives include statements of usage of a chemical vapor fluid delivery apparatus in concert with a chemical vapor deposition chamber:

It is another object of the present invention to provide an apparatus and method which allows for the separate introduction of different liquids with widely different flow rates, including low flow rate dopant liquids, *into a CVD process chamber* at constant pressure.

A further object of the invention is to provide an apparatus and method for effective atomization and vaporization of any liquid precursor prior to its introduction *into a reactive chamber*.

It is yet another object of the present invention to provide an apparatus and method to introduce liquids *into a chemical vapor deposition chamber* in a constant pressure environment without pre-mixing the liquids.

Specification, p.4, ll.1-10 (emphasis added).

Third, the invention is fully and completely described as it relates specifically to an application for chemical vapor deposition, for example, identifying a carrier fluid (gas), tetraethylorthosilicate (TEOS, which is predominantly used for such applications.

This invention is predominately used in a TEOS application, but may be valid for any liquid precursor and dopant liquids being injected into a process chamber.

Specification, p.13, ll.9-11.

In Acromed Corp. v. Sofamor Danek Group Inc., 59 USPQ2d 1130, 1137 (Fed.

Cir. 2001), the Federal Circuit established that “[c]ombination claims can consist of

new combinations of old elements ...for it may be that the combination of the old elements is novel and patentable." Citing, Clearstream Wastewater Sys. v. Hydro-Action, Inc., 206 F.3d 1440, 1444, 54 USPQ2d 1185, 1189 (Fed. Cir. 2000).

In light of the Board's comments, applicants have amended the claims to refer specifically to the *combination* of a chemical vapor deposition fluid delivery apparatus used in conjunction with a chemical vapor deposition chamber.

It is respectfully submitted that the application, as amended, overcomes the cited 35 U.S.C. § 112, second paragraph, rejection cited by the Board. Applicants submit that the claims, as amended, have now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,



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